

Claims:

1. A microphone unit comprising:

a microphone for receiving an audible input and converting said audible input into an electrical signal;

means for encrypting said electrical signal, wherein said means creates an encrypted analog signal capable of being received by a two way radio; and

an output for providing an encrypted analog signal capable of being received by a 2 way radio.

2. The microphone unit as set forth in claim 1, wherein said means for encrypting said electrical signal, wherein said means creates an encrypted analog signal capable of being received by a two way radio further comprises:

a digitizer coupled to said microphone for creating a digital signal from said electrical signal;

a voice coding device coupled to said digitizer for creating a voice coded signal from said digital signal;

an encryption module coupled to receive said voice coding signal for encrypting said voice coded signal to generate an encrypted signal; and

a modulator coupled to receive said encrypted signal for generating an output signal capable of being received by a two way radio.

3. The microphone unit as set forth in claim 2, further comprising an amplifier circuit coupled between said microphone and said digitizer for amplifying said electrical signal and providing said amplified electrical signal to said digitizer.

4. The microphone unit as set forth in claim 1, wherein said two way radio is an analog two way radio.

5. The microphone unit as set forth in claim 1, wherein said two way radio receives said output signal via a standard microphone jack input.

6. The microphone unit as set forth in claim 2, wherein said encryption module comprises software for encrypting said voice coded signal.

7. The microphone unit as set forth in claim 6, wherein said encryption module further comprises memory for storing an encryption key.

8. The microphone unit as set forth in claim 2, wherein said voice coding device is an AMBE+ vocoder.

9. The microphone unit as set forth in claim 1, wherein said encryption is AES encryption.

10. The microphone unit as set forth in claim 1, further comprising:

a demodulator for receiving an output signal from an analog radio and demodulating said signal into a voice coded signal;

decryption means coupled to said demodulator for decrypting said voice coded signal to generate an decrypted voice coded signal;

a voice decoding device coupled to said decryption means for generating a digital voice signal from said decrypted voice coded signal;

a digital to analog converter coupled to said voice decoding device for converting said digital voice signal to an analog voice signal; and

a speaker coupled to said digital to analog converter for outputting said analog voice signal.

11. A microphone unit comprising:

an input for receiving an encrypted analog signal from a two-way radio;

means for decrypting said encrypted analog signal, wherein said means creates a decrypted analog electrical signal capable of being output via a speaker; and

a speaker for outputting said analog electrical signal.

12. The microphone unit as set forth in claim 11, wherein the means for decrypting said encrypted analog signal, wherein said means creates a decrypted analog signal capable of being output via a speaker, further comprises:

a demodulator for receiving said encrypted analog signal from an analog radio and demodulating said signal into a voice coded signal;

decryption means coupled to said demodulator for decrypting said voice coded signal to generate an decrypted voice coded signal;

a voice decoding device coupled to said decryption means for generating a digital voice signal from said decrypted voice coded signal; and

a digital to analog converter coupled to said voice decoding device for converting said digital voice signal to said analog electrical signal.

13. The microphone unit as set forth in claim 12, further comprising an amplifier circuit coupled between said digital to analog converter and said speaker for amplifying said analog electrical signal and providing said amplified signal to said speaker.

14. The microphone unit as set forth in claim 11, wherein said two way radio is an analog two way radio.

15. The microphone unit as set forth in claim 11, wherein said two way radio provides said encrypted analog signal via a standard microphone jack output.

16. A microphone unit as set forth in claim 12, wherein said decryption module comprises software for decrypting said voice coded signal.

17. A microphone unit as set forth in claim 12, wherein said decryption module further comprises memory for storing an decryption key.

18. The microphone unit as set forth in claim 12, wherein said voice decoding device is an AMBE+ vocoder.

19. The microphone unit as set forth in claim 11, wherein said decryption is AES decryption.

20. A method for providing a secure audio signal input to a two way analog radio, comprising the steps of:

providing a voice input to a microphone contained within a microphone unit to create an analog electrical signal;

digitizing said analog electrical signal within said microphone unit to create a digital voice signal;

voice coding said digital voice signal to create a voice coded signal;

encrypting said voice coded signal to create an encrypted signal; and

modulating said encrypted signal to create an output signal, wherein said output signal can be received by a two way radio via a microphone input contained within said radio.

21. A method as set forth in claim 20, further comprising the step of:

amplifying said analog electrical signal before said digitizing step.

22. A method for receiving a secure signal from a two way analog radio and converting said signal into audible speech, comprising the steps of:

demodulating said secure signal from said analog radio to create an encrypted voice coded signal;

decrypting said encrypted voice coded signal to create a digital voice coded signal;

voice decoding said digital voice coded signal to create a decoded voice signal;

converting said decoded voice signal to an analog voice signal;

outputting said analog voice signal via a speaker.

23. A method as set forth in claim 18, further comprising the step of:

amplifying said analog voice signal prior to outputting via said speaker.

24. A method for secure communication among analog two way radios comprising the steps of:

providing a voice input to a microphone contained within a microphone unit to create an analog electrical signal;

digitizing said analog electrical signal within said microphone unit to create a digital voice signal;

voice coding said digital voice signal to create a voice coded signal;

encrypting said voice coded signal to create an encrypted signal; and

modulating said encrypted signal to create a first output signal, wherein said first output signal can be received by a two way radio via a microphone input contained within said radio;

providing said output signal to a first two way analog radio;

transmitting a broadcast signal by said first two way radio;

receiving said broadcast signal by a second two way radio and outputting a second output signal representative of said broadcast signal;

providing said second output signal to a second microphone unit;

demodulating said second output signal to create an encrypted voice coded signal;

decrypting said encrypted voice coded signal to create a digital voice coded signal;

voice decoding said digital voice coded signal to create a decoded voice signal;

converting said decoded voice signal to an analog voice signal; and

outputting said analog voice signal via a speaker output.